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Das, E.; Vonkeman, C.C.; Hartmann, T.

published in

Psychology and Health
2012

DOI (link to publisher)

[10.1080/08870446.2011.569888](https://doi.org/10.1080/08870446.2011.569888)

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Das, E., Vonkeman, C. C., & Hartmann, T. (2012). Mood as a resource in dealing with health recommendations: How mood affects information processing and acceptance of quit-smoking messages. *Psychology and Health*, 27(1), 116-127. <https://doi.org/10.1080/08870446.2011.569888>

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Psychology & Health

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/gpsh20>

Mood as a resource in dealing with health recommendations: How mood affects information processing and acceptance of quit-smoking messages

Enny Das ^a, Charlotte Vonkeman ^a & Tilo Hartmann ^a

^a Department of Communication Science, VU University Amsterdam, De Boelelaan 1081, 1081HV Amsterdam, The Netherlands

Available online: 07 Jul 2011

To cite this article: Enny Das, Charlotte Vonkeman & Tilo Hartmann (2012): Mood as a resource in dealing with health recommendations: How mood affects information processing and acceptance of quit-smoking messages, *Psychology & Health*, 27:1, 116-127

To link to this article: <http://dx.doi.org/10.1080/08870446.2011.569888>

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Mood as a resource in dealing with health recommendations: How mood affects information processing and acceptance of quit-smoking messages

Enny Das*, Charlotte Vonkeman and Tilo Hartmann

*Department of Communication Science, VU University Amsterdam,
De Boelelaan 1081, 1081HV Amsterdam, The Netherlands*

(Received 26 May 2010; final version received 4 March 2011)

Objective: An experimental study tested the effects of positive and negative mood on the processing and acceptance of health recommendations about smoking in an online experiment. It was hypothesised that positive mood would provide smokers with the resources to systematically process self-relevant health recommendations.

Design: One hundred and twenty-seven participants (smokers and non-smokers) read a message in which a quit smoking programme was recommended. Participants were randomly assigned to one of four conditions: positive versus negative mood, and strong versus weak arguments for the recommended action.

Main outcome measures: Systematic message processing was inferred when participants were able to distinguish between high- and low-quality arguments, and by congruence between attitudes and behavioural intentions. Persuasion was measured by participant's attitudes towards smoking and the recommended action, and by their intentions to follow the action recommendation.

Results: As predicted, smokers systematically processed the health message only under positive mood conditions; non-smokers systematically processed the health message only under negative mood conditions. Moreover, smokers' attitudes towards the health message predicted intentions to quit smoking only under positive mood conditions.

Conclusion: Findings suggest that positive mood may decrease defensive processing of self-relevant health information.

Keywords: positive mood; smoking; information processing; health recommendation; persuasion

People appear endlessly creative in avoiding threatening information, especially when this information is personally relevant (Jemmott, Ditto, & Croyle, 1986; Liberman & Chaiken, 1992). This can be particularly problematic in the health domain, where attention to persuasive messages is a prerequisite for behavioural change. Recent research efforts have uncovered various self-regulatory mechanisms

*Corresponding author. Email: h.h.j.das@vu.nl

that may increase attention to messages that contain aversive information. For instance, psychological resources such as optimism and sense of coherence can help deal with adversity (Aspinwall & Tedeschi, 2010; Taylor & Brown, 1998; Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000). Also, positive affirmations of the self can increase the acceptance of threatening health information, and decrease defensive processing of self-threatening information (Klein & Harris, 2009; Sherman, Nelson, & Steele, 2000; van Koningsbruggen, Das, & Roskos-Ewoldsen, 2009). Recent studies suggest that a positive mood may similarly function as a self-regulatory resource and promote attention to self-threatening information (e.g. Das & Fennis, 2008; Raghunathan & Trope, 2002; Trope, Hassin, & Gervy, 2001).

To date, studies that have examined the impact of mood on health messages have focused mainly on attention to threatening health messages, and more empirical evidence is needed to establish whether these effects translate into the ultimate goal of most health messages, i.e., to promote intentions to adopt health recommendations and change unhealthy lifestyles. This study extends previous research by testing the effects of mood on the processing and acceptance of health recommendations, and by examining the relationship between mood, information processing and intentions to change a blatantly unhealthy behaviour: smoking. Over the past decades, a considerable decrease in smoking rates has been established in several countries including The Netherlands, but a group of smokers remains that appears largely unaffected by tobacco control messages (Emery, Gilpin, Ake, Farkas, & Pierce, 2000; van Leest, 2005). The results of this study contribute to the understanding of the origins of defensive responses to health recommendations and may benefit health campaigns targeted at individuals who are vulnerable to specific health risks yet reluctant to change their bad habits.

Health messages, mood and persuasion

Persuading individuals to change undesirable behaviour or to adopt healthier habits through health communication is a challenge. As health messages usually contain threatening evidence that unhealthy lifestyles are associated with serious health consequences, they present receivers with a dilemma. On the one hand, this information is important to make better choices, which can lead to benefits in the long run. On the other hand, threatening health messages confront individuals with the harmful consequences of their behaviour. This confrontation may trigger negative emotions such as fear, anxiety or irritation and constitute a threat to the self-concept (Steele, 1988). The unpleasant content of threatening health messages is therefore often met with resistance.

Individuals may use various defensive strategies that lead to the rejection of threatening health messages (Witte & Allen, 2000). For instance, they may try to avoid or ignore threatening health messages (Witte, 1994), deny the personal relevance of health information or minimise the seriousness of a health risk (Jemmott et al., 1986; van Koningsbruggen & Das, 2009) or criticise the accuracy of a health risk test (e.g. Ditto & Lopez, 1992). Alternatively, individuals may also engage in wishful thinking and accept dubious solutions to a health risk, such as unproven medical procedures (Das, de Wit, & Stroebe, 2003; de Hoog, Stroebe, & de Wit, 2005). From a self-regulation perspective, such defensive responses serve an important function: they protect an individual against negative emotions such as

fear, anxiety and depression (Aspinwall, 1998; Raghunathan & Trope, 2002; Trope & Fishbach, 2000; Trope & Neter, 1994), and also help to maintain a positive self-image (e.g. Reed & Aspinwall, 1998; Sherman et al., 2000). These reactions, however, undermine the objective of health messages, as they stand in the way of persuasion and adaptive behavioural change.

Recent research has shown that positive mood can be a factor in increasing processing and persuasion regarding threatening health messages. According to the mood-as-resource hypothesis, positive mood provides individuals with the resources to deal with short-term negative consequences of a message (Isbell, 2004; Raghunathan & Trope, 2002). Positive mood can serve as a buffer, absorbing the immediate negative impact of threatening information on self-esteem and rendering the receiver more capable of focusing on the long-term benefits that may be obtained from threatening health messages (Aspinwall, 1998).

Positive mood may decrease defensive responses to negative messages and promote effective self-regulation, in particular when threatening health information is relevant to the self. For instance, a study by Raghunathan and Trope (2002) found that a positive mood enhanced recall of the negative effects of caffeine intake, induced less favourable attitudes towards caffeine intake and increased intentions to cut down caffeine intake for coffee drinkers (Raghunathan & Trope, 2002). In contrast, coffee drinkers in the negative mood condition were less convinced by the health message. These individuals were assumed to lack the resources to deal with the short-term affective costs of the self-threatening health message. When the information was not relevant to the self, i.e., for non-coffee drinkers, a positive mood had no effects on persuasion. Another recent study showed that a positive mood induced systematic processing of a threatening health message about repetitive strain injury (RSI), but only under high self-relevance conditions (Das & Fennis, 2008). Individuals who received feedback that they were at risk for developing RSI (i.e. under high self-relevance conditions) differentiated between strong and weak arguments in a health message under positive mood, but not negative mood conditions. Differentiation between strong and weak arguments is an indicator of systematic message processing (Petty & Wegener, 1999). The study also showed that a positive mood was likely to promote heuristic processing when a threatening message was not self-relevant.

Although previous studies have provided evidence that a positive mood can promote attention to threatening health information, more empirical evidence regarding the effects of positive mood on persuasion is needed. In particular, it has not yet been established whether systematic processing prompted by positive mood will translate into intentions to follow health recommendations.

This study

This study extends previous research by considering the interplay between mood, information processing and health persuasion. In view of recent findings, we hypothesise that the effects of mood on information processing vary with the self-relevance of the information, and with argument strength. When a health message is relevant to the self, positive moods – but not negative moods – are hypothesised to induce systematic message processing, and persuasion for messages that are supported by strong arguments (Petty & Wegener, 1999). This effect is proposed to

occur because under conditions of high self-relevance, positive mood promotes effective self-regulation, and buffers the short-term costs of dealing with self-threatening information (cf. Fredrickson, 1998, 2001). Under conditions of low self-relevance, it is hypothesised that systematic processing of a health message has hedonic costs – i.e. it spoils a good mood – and no benefits, because there are no adaptive implications for the self in the longer run. In these conditions, a positive mood will instigate a pursuit of hedonic concerns, and induce less systematic modes of information processing (Wegener, Petty, & Smith, 1995).

The objective of this research is to test these assumptions in the realm of smoking behaviour. More specifically, we test whether self-relevance (low, high) moderates the effects of mood (positive, negative) on the way people process a health message about smoking, and on the persuasiveness of this message. According to dual-process models of persuasion (Petty & Wegener, 1999), a comprehensive and robust test of information processing requires effects of the quality of the arguments in a persuasive message on measures of persuasion (Petty & Cacioppo, 1986). Systematic processing is inferred if participants differentiate between strong and weak arguments on attitudes towards a health recommendation (Petty & Wegener, 1999). Subsequently, we will examine whether these attitudes will predict behavioural intentions of those for whom the recommendation is relevant: smokers.

Method

Participants and design

A total of 127 participants (72 women and 55 men; mean age = 27; SD = 8.20) were recruited online (a link to the online research environment on a university website) and via email (a link to the online research environment in an email). The email list consisted of individuals who had indicated their willingness to participate in academic research in previous questionnaires ($N = 321$). The email request included a snowball sample strategy, asking participants to forward the research link to acquaintances. In order to prevent a biased sample, participants were told that they would enter a 'general health survey that assessed differences in lifestyles and personalities' with no specific reference to smoking. Participants could win gift vouchers of 25 Euro in exchange for their participation. Following the World Health Organisation guidelines (1998), participants were considered smokers if they smoked daily, tried to cut down or smoked casually (more than 100 cigarettes in a lifetime). Participants were considered non-smokers if they had never smoked a cigarette, or quit smoking (casually or daily) more than 7 days prior to the experiment. This procedure resulted in a categorisation of 66 smokers, and 61 non-smokers. Smokers and non-smokers were randomly assigned to experimental conditions. This procedure resulted in a 2 (smoking status: smoker vs. non-smoker) \times 2 (mood: positive vs. negative) \times 2 (argument quality in recommendation: weak vs. strong) between subjects design.

Procedure and independent variables

After several general questions about smoking, *mood* was manipulated following the procedure described by Raghunathan and Trope (2002). Participants were asked to recall three positive or negative events they had recently experienced, and to describe

each event in a few sentences. Participants were then presented with a health message that consisted of a threatening part and an action recommendation (cf. Das et al., 2003). In the threatening part, participants saw one of four photos depicting possible health consequences of smoking (i.e. a tumour, lung cancer, diseased teeth and brain haemorrhage). These pictures were matched with regard to threat level on the basis of a pilot study ($1 = \text{low threat}$, $5 = \text{high threat}$; $N = 20$; $M = 3.28$, $SD = 0.94$). Four pictures were chosen for generalisation purpose, i.e., to make sure that participants' responses could not be attributed to the portrayal of one particular health consequence of smoking. The action recommendation promoted a 'quit smoking now!' course as a means to reduce the negative consequences of smoking. This recommendation was supported by three weak or three strong arguments that were selected in a pilot study (cf. Petty & Cacioppo, 1986). Specifically, arguments that scored lowest ($M = 1.96$, $SD = 0.74$) or highest ($M = 3.77$, $SD = 0.81$) on a measure of argument quality ($1 = \text{very weak}$, $5 = \text{very strong}$) were selected. Examples are: 'Training evaluations have shown that 90% of participants thought the training was very effective' (strong), and 'The Libelle [a women's weekly magazine] recommended the training to readers' (weak). After reading this message, participants completed the dependent measures, were thanked for their participation and debriefed.

Manipulation checks

The effectiveness of the *mood* manipulation was assessed by a positive mood scale (e.g. elated, active; Cronbach's $\alpha = 0.76$, 10 items) and a negative mood scale (depressed, tense; Cronbach's $\alpha = 0.80$, 10 items) taken from the Profile of Mood State (POMS, Wald, 1984). The items were assessed on five-point scale, ranging from 1 (*not at all*) to 5 (*very much*).

Perceived *argument quality* was assessed by three items, which measured how strong, supportive and sensible participants rated the arguments for the recommended action on a seven-point scale, ranging from 1 (*totally disagree*) to 7 (*totally agree*) (Cronbach's $\alpha = 0.82$).

Three items were added to verify that smokers perceived the health information as more personally *relevant* than non-smokers, e.g., 'The depicted image and text about smoking apply to me personally' (Cronbach's $\alpha = 0.82$). These items were measured on a five-point scale, ranging from 1 (*totally disagree*) to 5 (*totally agree*).

Persuasion

Participants' *attitudes towards smoking* were assessed by three items, measuring on a five-point scale how dirty, annoying and addictive participants considered smoking (Cronbach's $\alpha = 0.60$). Higher scores indicate a more favourable attitude towards smoking. In addition, participants' *attitude towards the recommended action* was assessed by six items. Participants were asked to indicate e.g., how good and useful they perceived the recommended action (Cronbach's $\alpha = 0.89$). Higher scores indicate a more favourable attitude towards the recommended action. Behavioural *intentions* were assessed for smokers only, with four items, e.g. 'Do you intend to participate in the recommended "quit smoking now!" training?' on a five-point scale, ranging from 1 (*totally disagree*) to 5 (*totally agree*) (Cronbach's $\alpha = 0.84$). Higher scores indicate a higher intention to participate.

Results

Manipulation checks

A unifactor (mood: positive vs. negative) ANOVA on the *negative mood* scale revealed the expected main effect for mood, $F(1, 125) = 3.98$, $p < 0.05$, $\eta_p^2 = 0.03$. Participants in the negative mood conditions reported more negative moods ($M = 2.58$, $SD = 0.28$) than participants in the positive mood conditions ($M = 2.47$, $SD = 0.34$). The ANOVA on the *positive mood* scale also revealed the expected main effect for mood, $F(1, 125) = 11.88$, $p < 0.001$, $\eta_p^2 = 0.09$. Participants in positive mood conditions reported more positive moods ($M = 3.04$, $SD = 0.32$) than participants in negative mood conditions ($M = 2.85$, $SD = 0.31$). A unifactor (argument quality: weak vs. strong) ANOVA revealed that the manipulation of argument quality was also successful, $F(1, 125) = 26.51$, $p < 0.01$, $\eta_p^2 = 0.18$. Strong arguments were perceived as stronger ($M = 3.03$, $SD = 0.81$) than weak arguments ($M = 2.30$, $SD = 0.79$). Finally, a unifactor (smoking status: smoker vs. non-smoker) ANOVA on the measure of perceived *relevance* of the harmful consequences of smoking revealed the expected main effect, $F(1, 125) = 29.88$, $p < 0.001$, $\eta_p^2 = 0.19$. Smokers perceived the action recommendation as more personally relevant ($M = 2.15$, $SD = 1.00$) than non-smokers ($M = 1.35$, $SD = 0.57$).

Persuasion

A 2 (smoking status: smoker vs. non-smoker) \times 2 (mood: positive vs. negative) \times 2 (argument quality: weak vs. strong) ANOVA on *attitudes towards smoking* revealed a main effect for mood, $F(1, 119) = 32.05$, $p < 0.001$, $\eta_p^2 = 0.21$. Participants in positive mood conditions reported more negative attitudes towards smoking ($M = 2.15$, $SD = 0.61$) than participants in negative mood conditions ($M = 2.89$, $SD = 0.82$). This main effect was qualified by an interaction between mood and smoking status, $F(1, 119) = 5.43$, $p = 0.021$, $\eta_p^2 = 0.04$, and by a significant three-way interaction between smoking status, mood and argument quality, $F(1, 119) = 6.21$, $p = 0.014$, $\eta_p^2 = 0.05$. Simple effects analyses revealed a significant differentiation between strong and weak arguments for smokers in a positive mood, $F(1, 119) = 4.38$, $p < 0.05$, and for non-smokers in a negative mood, $F(1, 119) = 4.38$, $p < 0.05$. Only in these conditions, strong arguments elicited more negative attitudes towards smoking than weak arguments (Table 1).

A 2 (smoking status: smoker vs. non-smoker) \times 2 (mood: positive vs. negative) \times 2 (argument quality: weak vs. strong) ANOVA on *attitudes towards the recommended action* revealed a main effect for mood $F(1, 119) = 14.75$, $p < 0.001$, $\eta_p^2 = 0.11$. Participants in positive mood conditions reported more positive attitudes ($M = 3.14$, $SD = 0.79$) than participants in negative mood conditions ($M = 2.61$, $SD = 0.83$). In addition, a main effect of argument quality was observed, $F(1, 119) = 31.48$, $p < 0.001$, $\eta_p^2 = 0.21$. Strong arguments elicited more positive attitudes ($M = 3.25$, $SD = 0.69$) than weak arguments ($M = 2.51$, $SD = 0.83$). Both main effects were qualified by an interaction between mood and smoking status, $F(1, 119) = 7.17$, $p < 0.01$, $\eta_p^2 = 0.06$, and by a significant three-way interaction between smoking status, mood and argument quality, $F(1, 119) = 9.35$, $p < 0.01$, $\eta_p^2 = 0.07$. Simple effects analyses revealed a significant differentiation between strong and weak arguments for smokers in a positive mood, $F(1, 119) = 24.55$, $p < 0.001$, and for non-smokers in a negative mood, $F(1, 119) = 13.92$, $p < 0.000$.

Table 1. Interactive effects of smoking status, mood and argument quality on attitudes towards smoking and attitudes towards the recommended action.

Condition	Attitudes towards smoking		Attitudes towards recommended action	
	Argument quality		Argument quality	
	Weak	Strong	Weak	Strong
Non-smokers				
Negative mood	3.27 (0.95)	2.72 (1.09)*	2.02 (0.61)	2.96 (0.64)**
Positive mood	1.88 (0.44)	2.10 (0.79)	3.20 (0.63)	3.40 (0.59)
Smokers				
Negative mood	2.76 (0.57)	2.72 (0.54)	2.60 (0.84)	3.04 (0.80)
Positive mood	2.58 (0.54)	2.06 (0.49)*	2.36 (0.81)	3.57 (0.54)**

Notes: Significant differences (rows) indicate that participants differentiated between weak and strong arguments in the action recommendation. Higher scores indicate more positive attitudes.

* $p < 0.05$; ** $p < 0.001$.

Table 2. Interactive effects of mood, and argument quality on smokers' behavioural intentions to participate in 'quit smoking' training.

	Weak arguments	Strong arguments
Negative mood	2.07 (0.45)	1.71 (0.44)
Positive mood	1.40 (0.81)	2.52 (0.54)**

Notes: Significant differences (rows) indicate that participants differentiated between weak and strong arguments in the action recommendation.

** $p < 0.001$.

Only in these conditions, strong arguments elicited more positive attitudes towards the recommended action than weak arguments (Table 1).

A 2 (mood: positive vs. negative) \times 2 (argument quality: weak vs. strong) ANOVA on smokers' ($N=66$) *intentions* to participate in the 'quit smoking now!' training revealed a main effect for argument quality, $F(1,62)=7.55$, $p < 0.01$, $\eta_p^2=0.11$. Strong arguments elicited higher intentions ($M=2.10$, $SD=0.63$) than weak arguments ($M=1.73$, $SD=0.73$). This main effect was qualified by a significant interaction between mood and argument quality, $F(1,62)=27.88$, $p < 0.001$, $\eta_p^2=0.31$. Simple effects analyses revealed a significant differentiation between strong and weak arguments only for smokers in a positive mood, $F(1,62)=31.43$, $p < 0.001$. No such differentiation was observed under conditions of negative mood (Table 2).

Predicting intentions

To determine whether *attitudes towards the recommended action* predicted *intentions* to participate in the 'quit smoking now!' training for smokers, simple regression analyses were conducted. The results showed that attitudes and intentions were related for smokers in a positive mood, but not for smokers in a negative mood.

For smokers in a positive mood, a more positive attitude towards the recommended training led to higher intentions to participate in the training, $t(30) = 4.49$, $p < 0.000$, $b(SE_b) = 0.62 (0.14)$, $\beta = 0.63$ and $R^2 = 0.40$. For smokers in a negative mood, however, no significant relation between attitudes towards the recommended action and intentions to participate in the recommended training was found, $t(32) = 0.09$, $p = 0.927$, $b(SE_b) = 0.01 (0.10)$, $\beta = 0.02$ and $R^2 = 0.00$.

Discussion

These findings show that smokers systematically processed health recommendations in a quit smoking message when they were in a positive mood, and not when they were in a negative mood. Specifically, smokers in a positive mood were able to distinguish between weak and strong arguments in a persuasive health message, which is indicative of systematic processing (Petty & Cacioppo, 1986). In addition, attitudes towards the health recommendations predicted intentions to participate in a recommended quit smoking training only for smokers in a positive mood. No such relation was observed for smokers in a negative mood. Finally, whereas smokers in a positive mood showed higher levels of systematic processing of health information compared to smokers in a negative mood, for non-smokers the effects of mood were reversed, such that non-smokers showed higher levels of systematic processing in negative rather than positive mood conditions.

Previous studies have shown that a positive mood can increase attention to health information, but more evidence was needed to establish the interplay between information processing, message acceptance and other persuasive outcomes. The present findings suggest that a positive mood may provide smokers with the resources to deal with the psychological costs of threatening information about their current lifestyle, and put them on the right track towards adaptive action. Without such resources, smokers are likely to stay 'stuck' in defensive strategies such as defensive avoidance, counter-argumentation, and wishful thinking, for instance by reassuring themselves that 'I haven't smoked for that long, I will quit when I get older', or by stating that 'this message is rather exaggerated, the health consequences of smoking are not always that bad' (Ditto & Lopez, 1992; Jemmott et al., 1986; Liberman & Chaiken, 1992). A positive change in unhealthy behaviours first requires the acknowledgement that one's current behaviour is problematic, and psychological resources such as a positive mood, or self-affirmation (Harris, Mayle, Mabbott, & Napper, 2007) may help individuals achieve this goal.

The differential effects of mood observed for smokers and non-smokers, i.e., under conditions of high and low self-relevance, are also informative for other theoretical accounts of mood and information processing. Previous research has shown that positive moods generally promote global, flexible, intuitive and holistic information processing, whereas negative moods promote more systematic, narrow, focused, and analytic forms of processing (see Isen, 1999, 2004; Schwarz & Clore, 1996 for overviews). These mood main effects are qualified by hedonic contingency assumptions, which predict that a positive mood induces systematic processing of uplifting messages, and heuristic processing of aversive, unpleasant messages (Wegener et al., 1995). Our findings suggest that hedonic contingency assumptions hold for messages with low relevance for the self, in this case non-smokers, but not for messages with high relevance for the self. For highly relevant health messages,

long-term adaptive consequences appear to overrule short-term hedonic consequences, which results in systematic processing of aversive information. These positive mood effects are consistent with a broaden-and-build perspective of positive mood (Fredrickson, 1998, 2001).

Our findings also have implications for health education practice. Health messages often focus on the 'bad news' regarding a certain health risk without providing individuals with the resources necessary to deal with highly threatening information. This holds particularly true for cigarette warning labels that include pictures of diseased lungs, open-heart surgery or tumours, but hardly provide resources to help individual break a nasty habit, or gain more self-confidence to build up a successful quitting effort. This focus on the negative in many health campaigns may be rooted in the assumption that highly threatening health messages may be most effective in convincing a target audience. However, based on the present results, health campaigns should focus on providing individuals the resources necessary to cope with the self-regulatory costs of a self-relevant health threat. Including elements that make message receivers feel good may help to achieve this goal, for instance by using peripheral cues that trigger positive affect such as attractive message design or imagery, or by including encouraging sentences such as 'you are worth it'. One should keep in mind the main problem with unhealthy lifestyles is often not ignorance, or stubbornness, but the inability to face the facts.

Limitations and future directions

The observed differences in mood following positive and negative mood manipulations were rather small, and relatively weak, compared with the effects on attitudes and intentions. In addition, the mood differences observed after our mood manipulations should be viewed as relative and do not allow for statements about absolute levels of positive or negative mood, or the effects thereof. Finally, although the observed findings are consistent with related research showing that positive moods increases attention for self-threatening information (Aspinwall & Tedeschi, 2010), this study provides no definitive answer whether the observed mood effects should be attributed to positive or to negative moods, due to the absence of a neutral mood condition. Future research may benefit from including a neutral control condition. Research has shown that positive and negative states can differ from neutral mood states, but not in symmetrical opposition (Aspinwall & Tedeschi, 2010).

Previous research has documented biased systematic processing of self-relevant health messages. For instance, Ditto and Lopez (1992) found that people criticised the accuracy of a health risk test, whereas a study by Das et al. (2003) showed that individuals had more positive thoughts regarding a health recommendation regardless of argument quality. The present findings suggest that positive mood decreases biased processing of self-relevant health recommendations, and thereby increases their persuasiveness. Defensive responses to health information, however, may appear at all stages of information processing. Individuals may avoid threatening information altogether, they may process incoming threatening information heuristically (Witte, 1994; Witte & Allen, 2000), or they may systematically process the information in the direction of a favoured conclusion (i.e. biased systematic processing, Liberman & Chaiken, 1992). Although this research provides

evidence that positive mood increases systematic processing for threatening health information, the question remains to what extent positive mood offsets other types of defensive responses. This issue should be addressed in future research. Likewise, examining potential processing differences between light and heavy smokers would provide insight into whether these processes operate equally among those with the most negative behaviours to deny or defend.

When we put the currently observed effects of a positive mood in a larger perspective, some striking similarities with other positive self-related experiences become evident (see also Aspinwall & Tedeschi, 2010; Fredrickson, 2001; Tugade & Fredrickson, 2004). For instance, research has shown that positive affirmations of the self reduce biased processing of health messages (Reed & Aspinwall, 1998), avert defensive responses to threatening health messages and increase the acceptance of threatening health information (Harris & Epton, 2009; Harris & Napper, 2005; Reed & Aspinwall, 1998; Sherman et al., 2000; van Koningsbruggen & Das, 2009). In addition, both self-affirmation and mood may backfire and decrease information processing for messages that are not self-relevant (Brinol, Petty, Gallardo, & DeMarree, 2007; van Koningsbruggen & Das, 2009). According to self-affirmation theory (Steele, 1988), positive affirmations of the self restore self-integrity on a general level, and consequently function as a buffer against self-threatening information. When individuals self-affirm, they have the resources to process a relevant threatening message systematically.

Although self-affirmation generally has no effects on mood, self-affirmation and positive mood appear to have similar effects on the processing and persuasiveness of threatening health information. One potential explanation for these similarities is that autobiographical recall manipulations of mood may trigger some aspect of the self, and thus – inadvertently – affirm the self regardless of mood. Alternatively, self-affirmation and mood may induce different processes at the explicit level but both affect the self-concept at the implicit level, by activating the integration of incoming information into the self-system (Bolte, Goschke, & Kuhl, 2003). The fact that self-relevance, mood, and argument quality exerted stronger effects on attitudes and intentions than on the manipulation checks is consistent with this reasoning. Finally, it is plausible that self-affirmation and mood both increase thought confidence; previous research has suggested that when people feel confident in their current views they are less inclined seek additional information (Brinol et al., 2007). These hypotheses could be further investigated in future studies.

Conclusion

This study adds to research on the role of positive self-related experiences in dealing with health threats, and promoting effective self-regulation (Aspinwall & Tedeschi, 2010; Fredrickson, 2001; Tugade & Fredrickson, 2004). Findings indicate that health messages may be more effective in persuading individuals to change unhealthy behaviour when they include elements that induce positive mood. Positive mood may provide individuals with the resources to accept the unpleasant truth about their behaviour, and help them to keep their ‘less than perfect’ selves out of trouble in the long run.

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